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09/386,339	08/31/1999	HIROSHI KATSURABAYASHI	104122	1316

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EXAMINER

SHAFFER, ERIC T

ART UNIT PAPER NUMBER

3623

DATE MAILED: 01/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/386,339

Applicant(s)

KATSURABAYASHI ET AL.

Examiner

Eric T. Shaffer

Art Unit

3623

-- **Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --**
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 August 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This communication is in response to the amendments filed October 29, 2003.

Response to Amendment

2. Applicant has not amended or cancelled any claims and has not added any new claims.

Claims 1 - 27 are pending and are prosecuted in the response set out below.

Response to Arguments

3. Applicant's arguments with respect to claims 1 - 27 have been considered and deemed unpersuasive.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1 – 13, 15 - 20, 22 and 24 - 27** are rejected under 35 U.S.C. 103(a) as being anticipated by Brooks et al US 5,825,869).

As per claims 1, 5 and 25, Brooks et al teaches a computer executing an optimum operator selection support system comprising:

A task management part that analyzes job order relations including authority levels of responsible operators, based on electronic data transmitted/received among operators, and

Art Unit: 3623

manages information on the job order relations. The authority level is taught by Brooks, which recites “priority class and priority levels” (column 12, line 51) that enables the operator who can most responsibly handle a call to be chosen to handle said call. The task management is also taught by Brooks et al, which recites “a call-management method and system for distributing calls to a plurality of individuals, such as automatic call distribution agents, including routing calls to the individuals based upon a correlation of attributes of the individuals” (column 4, lines 51 - 54);

a job feature extraction part that extracts features of jobs of said operator by detecting common features from a frequency of occurrence of terms the plurality of documents extracted by said document feature extraction part. Detecting many common features of a job by an operator is taught by Brooks et al, which recites “the ‘closeness’ of a match is determined by comparing a number that is assigned to indicate the desired level of expertise regarding a call-handling need of a particular call with a number that is assigned to indicate the level of expertise possessed by the agent with regard to handling calls having the particular need. Since each skill expression identifies more than one call-handling need, the score for a call will depend upon more than one comparison of such numbers” (column 6, line 46 - 54).

While the Brooks reference extracts features from one document, it does not specifically teach the extraction from a plurality of documents. However, Brooks does teach extracting features or attributes from a plurality of sources by extracting skills and levels of proficiencies from a first form called resumes (column 4, lines 63 – 65 and column 5, lines 32 - 34), and extracting call management preferences from the particular individuals who are placing calls, which are recorded via interactive voice response (column 5, lines 1 – 2 and column 5, line 51),

Art Unit: 3623

where attributes of individuals are derived from “selection of first data, the second data, or a combination of the first and second data” (column 5, lines 4 - 6) .

It would have been obvious to one of ordinary skill in the art at the time the invention was made to read, analyze and extract contains the same individual steps, regardless of whether the process extracts from one or a plurality of documents. Since the art teaches extracting attributes from a plurality of sources, one of which is a document, it would have been obvious to extract attributes from two sources, both of which are documents because documents are mere formal written logs of thoughts or ideas that were prior to the document expressed in verbal form. The extraction of several documents is an amalgamation of several individual instances of extracting information from one single document. Therefore, it would be obvious to any one of ordinary skill in the art of document processing at the time the invention was made to perform the processing the steps of reading, analyzing and extracting on one or more because the basic process is not significantly different with respect to how many documents are involved in the extraction process.

6. As per claims 2 and 26, Brooks et al teaches the computer and computer-readable recording medium, further comprising:

a task management part that analyzes job order relations based on electronic data transmitted/received among operators, and manages information on the job order relations. Analysis of the call or job order is anticipated by Brooks et al, which teaches “each call is associated with a skill expression that identifies the skills that are relevant to effective handling of the call” (column 5, line 40 - 42).

wherein said job feature extraction part extracts the features of the jobs and roles of said operator based on the features of documents extracted by said document feature extraction part and the information on the job order relations managed by said task management part. Using extraction of features from resume documents is anticipated by Brooks et al, which teaches “the resume-details table is generated at step 62. This table details the identifier of each skill in order to reference back to the skills table and details the agents ResumeCode to reference back to the agents table. In addition, the resume-details table contains skill levels, skill preferences and excluded flags. A skill level is the level of knowledge or expertise that a particular agent has achieved in a given skill.” (column 9, line 37 - 44).

7. As per claims 3, 4, 6, 7 and 27, Brooks et al teaches a computer comprising:

a conversation management part that manages conversations among the operators by utilizing electronic data; Managing the assignment of calls to operators is anticipated by Brooks et al, which teaches “A call-management method and system for distributing calls to a plurality of individuals, such as automatic call distribution (ACD) agents, include routing calls to the individuals based upon a correlation of attributes of the individuals with calls that are tagged with identification of abilities that are advantageous to efficiently processing the calls.” (column 4, line 51 - 57).

a conversation feature extraction part that extracts features of the conversations among the operators managed by said conversation management part. Extracting or gathering information from telephone conversations is anticipated by Brooks et al, which teaches “Additional information may be gathered by means of interactive voice response (IVR) input and

Art Unit: 3623

database lookups. For example, customer database retrieval allows call-management to determine a customer history and customer preferences.” (column 5, line 50 - 54).

wherein said job feature extraction part extracts the features of the jobs of said operator from the features of the documents extracted by said document feature extraction part and distribution of the conversations extracted by said conversation management part, and extracts the roles of said operator from the information on the job order relations managed by said task management part. Extracting features from job documents is anticipated by Brooks et al, which teaches “a skill summary report organizes the data by skill expressions, rather than by agents” (column 6, lines 33 - 34).

8. As per claims 8, 9, 15 and 20, Brooks et al teaches the computer according to claim 1, further comprising a similar job search part that searches for similar jobs based on information extracted by said job feature extraction part. Searching for a specific type of similar jobs or skill expression that use the same skill set is anticipated by Brooks et al, which teaches “This report may list the number of calls enqueued for selected skill expressions and the average time spent on those calls for selected agents during specific time periods. A match analysis report summarizes all calls received by skill expression and shows the abandon rate per skill expression, which skill expressions are being requested most often, and the level of service provided for each skill expression.” (column 6, lines 39 - 42).

9. As per claims 10 and 11, Brooks et al teaches a computer according to claim 1, further comprising a job structure generation part that generates a structure representing roles of operators related to a job. Generating a list structure of roles or skill expressions that make up

Art Unit: 3623

the job of an operator is anticipated by Brooks et al, which teaches “A skill summary report organizes the data by skill expressions, rather than by agents.” (column 6, lines 33 - 34).

10. As per claim 12, Brooks et al teaches a computer according to claim 1, further comprising an optimum operator selection part that selects optimum members based on information extracted by said job feature extraction part. Finding the person with the best optimal set of relevant skills to perform a job is anticipated by Brooks et al, which teaches “Each call is associated with a skill expression that identifies the skills that are relevant to efficient handling of the call. As previously noted, the preferred embodiment is one in which more than one relevant skill is identified, so that all of the factors that determine a "best" agent for handling a call can be considered.” (column 5, lines 42 - 44).

11. As per claim 13, Brooks et al teaches the computer according to claim 1, further comprising:

an inquiry part that makes an inquiry to said job feature extraction part; Making an inquiry in order to find one specific type of job skill or feature is anticipated by Brooks et al, which teaches “a ResumeCode field that can be used as an identifier of the agent when the agents table is queried to look up the skills of the particular agent” (column 9, lines 35 - 37).

a display information analysis part that analyzes response information to inquiry information by said inquiry part, and generates image information having a content to be easily understood. An easily understood score that provides information to an inquiry is anticipated by Brooks et al, which teaches “A "skill score" is indicative of the correlation between the attributes of the agents and the desired abilities for handling a particular call. That is, in this embodiment

Art Unit: 3623

the skill score is a numeric measure of how well a particular agent's resume matches the skill expression associated with the call.” (column 11, lines 9 - 14).

12. As per claims 16 - 19, Brooks et al teaches the computer according to claim 1, further comprising a key-person search part that detects an operator who played a leading role in a job handled by a plurality of operators, and extracts documents based on the similar role. Identifying a leader with the best or highest score in a specific skill is anticipated by Brooks et al, which teaches “this skill commonality may be considered as creating a "team." For example, a team may be formed by designating a skill as "sales" and assigning a skill level from 1 to 9, with an agent having a skill level of 1 being considered a novice and an agent who has achieved a skill level of 9 being considered a team leader.” (column 9, lines 19 - 23).

13. As per claim 22, Brooks et al teaches the computer according to claim 4, further comprising a mail quotation detection and deletion part that deletes a quotation from another operator's remark, from conversation information managed by said conversation management part. Detection and deletion of a quotation is anticipated by Brooks et al, which teaches “The transaction dispatcher also causes the queue controller 50 to delete the corresponding entry in the transaction queue 56” (column 8, lines 63 - 65).

14. As per claim 24, Brooks et al teaches the computer according to claim 4, further comprising an important member detection part that detects a person who is not registered by said conversation management part as a member to conduct a job but significantly related to the job for execution of the job. Detecting a person who is excluded from or not registered to do a specific job is anticipated by Brooks et al, which teaches “Excluded flags may be identified in

Art Unit: 3623

the resume-details table to denote whether or not a particular skill is an "excluded skill" for a particular agent. Excluded skills are skills in the agent's resume that the agent is not permitted to handle under any circumstances." (column 9, line 66 – column 10, line 3).

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 14, 21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brooks et al (US 5,825,869) as applied to the claims above, in view of Machin et al (US 6,038,544).

As per claim 14, Brooks et al teaches a call management system and method that screens incoming telephone calls and then assigns incoming calls to operators. The device inputs, stores and searches a database of operator resumes in order to match an operator with an incoming call. The device can manage documents, extract data from documents, assign skill score level scores and store voice data. The invention does not specifically teach generating graphs, recording voice conversations or allowing operators to input comments.

Machin et al teaches an operator performance evaluation system and method that rates and ranks operators. The device also plots performance data on a graph, allows operators to input additional information as remarks, and also receives and records input conversation voice data in a digital format.

It would be obvious to enhance the Brooks et al call management device with the Machin et al device that evaluates operator performance because evaluating skills is a logical step in determining which skills an operator possesses and determining in which subject matter the operator possesses a relevant body of knowledge. By determining where an operator's strengths lie, the device would enable the call management center to make the highest and best use of the operators skill set by assigning the operator to calls that most effectively use his skill set.

17. As per claim 14, Brooks teaches the call management system and method that screens incoming telephone calls and then assigns incoming calls to operators. The device inputs, stores and searches a database of operator resumes in order to match an operator with an incoming call. The device can manage documents, extract data from documents, assign skill score level scores and store voice data. The invention does not specifically teach generating graphs, recording voice conversations or allowing operators to input comments.

Machin et al teaches the optimum operator selection support system according to claim 13, wherein said display information analysis part generates the image information as a graph representing documents and features of the documents handled by an arbitrary operator, among documents generated in a job conducted by a plurality of operators. Information presented in the form of a graph is taught in Figure 5 that "FIG. 5 illustrates a score screen 300 that graphically displays the performance of the user in a variety of categories" (column 5, lines 37 - 38).

It would be obvious to one of ordinary skill in the art at the time the invention was made to enhance the Brooks et al device by adding a graph onto which the performance data of multiple operators could be plotted because such an invention would allow comparison of many

Art Unit: 3623

operators with respect to various skill sets in order to see which operator has the best skill set in a given subject matter,

18. As per claim 21, Brooks teaches an optimum operator selection support system. Brooks does not teach input of sound information.

Input or recording of telephone conversations in a digitized sound file is taught by Machin et al, which recites “Memory 14 stores responses 52 as text and presents responses 52 on output module 26 to the user. In addition, memory 14 may store a version of responses 52 as digitized sound files, so that the user can listen to the response to assess non-textual information in order to make a proper selection.” (column 4, line 26 - 31).

It would be obvious to one of ordinary skill in the art at the time the invention was made to enhance the Brooks et al device by allowing the call center to record the voice of a caller and operator interacting because this would allow a supervisor to monitor the call for quality assurance and review the actual call at a later date. It would allow the supervisor to play the call back to the operator in order to provide examples of sub-standard performance and enhance the ability to provide specific criticisms, advice and corrective action to the operator.

19. As per claim 23, Brooks teaches an optimum operator selection support system. Brooks does not teach input of sound information. Brooks does not teach operator entry remarks.

Operator’s entering remarks is taught by Machin et al, which recites “the user selects an appropriate response, enters caller information, enters comments or notes concerning call 18, or provides other information to respond to call” (column 3, lines 47 - 48).

It would be obvious to one of ordinary skill in the art at the time the invention was made to enhance the Brooks et al device by allowing the operator to add comments or remarks as a

point of future reference and to provide a caller history that would enable another operator to have an instant body of knowledge of the case surrounding the call.

Response to Amendments

20. Applicant's arguments filed October 29, 2003 have been fully considered, but the same are not persuasive.

a) Applicant argues that the Brooks invention does not teach extracting a plurality of documents generated by one operator. However, the Brooks invention does extract data from more than one source in the functionality of extracting data from resumes and from call management preferences from the particular individuals who are placing calls, which are recorded via interactive voice response. It would have been obvious for one of ordinary skill to modify a device that extracts features from a plurality of sources, one of which sources is a document, to extract features from a plurality of sources where more than one source is a document. Such a slight modification of the existing Brooks invention does not present a new or novel functionality of the said device.

b) Applicant argues that the Brooks invention does not teach extracting features of operators by detecting common features from a frequency of occurrence from a plurality of documents. However, Brooks teaches that the attributes of individual operators are selected from the first data resume, from the second data caller interactive voice response or a

Art Unit: 3623

combination of both, where in a combination the attribute or feature would occur of a frequency at least twice.

c) Applicant argues that the Brooks does not teach task management that analyzes job order relations including the authority level of operators. However Brooks does teach the use of “priority classes and priority levels” (column 12, line 51) used to determine which operator will handle a call based on skill set and skill level of experience.

d) Applicant argues that the Brooks does not teach generation of a job feature management table. However Brooks does teach a skills management table in Figure 3 (column 10, line 11, “skill-expression table”).

In light of the above stated facts, examiner respectfully states that applicant’s arguments have been fully considered, deemed unpersuasive, and the rejections under the prior Office Action, mailed July 14, 2003 are maintained.

Art Unit: 3623

Conclusion

21. THIS ACTION IS MADE FINAL. See MPEM 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). The prior art made record of and not relied upon is considered pertinent to applicant's disclosure.

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of final action.

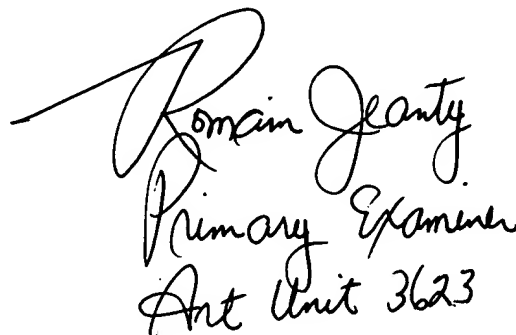
22. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Eric Shaffer whose telephone number is (703) 305-5283. The Examiner can normally be reached on Monday-Friday, 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (703) 305-9643. The fax number for the organization is (703) 305-0040/308-6306

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Receptionist whose telephone number is (703) 305-3900.

Eric Shaffer

January 8, 2003


Romaine J. Janty
Primary Examiner
Art Unit 3623